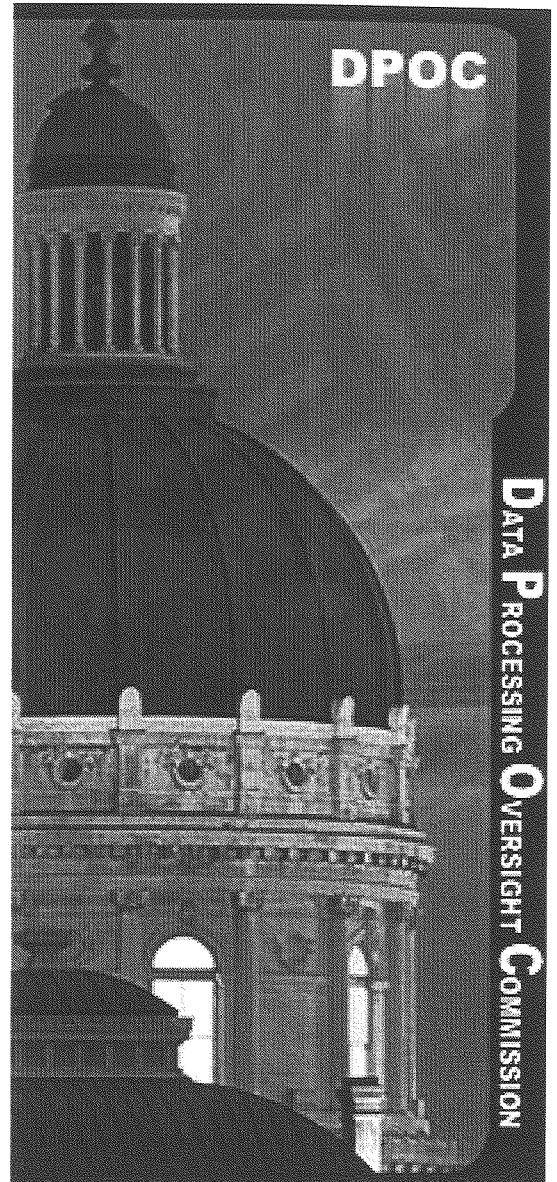


*State of Indiana
Information
Technology
Statement of
Direction
Interim Report*



*Prepared by the Data Processing
Oversight Commission Staff*

June 2001

STATE OF INDIANA
INFORMATION TECHNOLOGY STATEMENT OF DIRECTION
INTERIM REPORT
June, 2001

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EXECUTIVE SUMMARY

The Data Processing Oversight Commission (DPOC) staff developed this report to describe the State of Indiana's current situation with regards to information technology for the 2000-2002 timeframe and beyond as well as to provide recommendations for improvement in key strategic areas. Due to the length of time since the last statewide information technology (IT) planning initiative, the considerable changes in technology, as well as increasing state agency business drivers, DPOC decided to conduct a statewide IT planning initiative. The results of which are intended to:

- Establish a more robust network infrastructure,
- Prioritize business driven initiatives,
- Allocate scarce resources, and
- Track enterprise and large agency initiatives.

The Data Processing Oversight Commission (DPOC) staff, on behalf of the Commission members, entered into an IT planning initiative resulting in these findings and recommendations. The information gathering approach was to interview key IT and business staff to determine agency specific directions for the next biennium and beyond. This initiative was designed to understand broad agency directives as well as to highlight state government agency initiatives, hereby referenced as enterprise initiatives, and related concerns that should be prioritized and addressed.

DPOC recognizes that agencies can and will change directions based on newly implemented legislation, citizen demand and technology innovation. Consequently, the findings and recommendations contained herein are intended for the design and support of enterprise architecture and applications for the agencies and their needs in an evolving business and changing technology environment. DPOC also recognizes that additional documents, such as annual work plans, will be developed as a result of this initiative. Consequently, this document does not address prioritization, lead agency assignments and timeframes.

In compiling this planning document, we identified several significant trends.

- The first is the migration of the desktop operating systems to Windows or Windows NT. We plan to evaluate how desktop operating systems are deployed and investigate desktop and network management tools to facilitate both procurement and deployment.
- Most agencies have a limited security strategy and are looking for direction to develop a comprehensive security policy. We plan to develop and publish an enterprise security policy and establish, at minimum, one security and one firewall administrator.

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- Many agencies identified the need for remote access, and several are participating in the virtual private network (VPN) initiative. In addition to VPN, we also will research expanding remote access to the standard email applications, Outlook and GroupWise.
- One key to the success of e-commerce and e-government is digital signatures. To minimize confusion, we will publish definitions for digital certificates, digital signatures, electronic certificates and electronic signatures. We also plan to analyze the options for digital signatures and implement the most appropriate solution for the state enterprise.
- In order to view information as an enterprise resource, it must be administered from that level. This means developing standards and guidelines for the definitions and administration of data. This is particularly important for geographic data since in order to consolidate multiple data sources into a geographic view, data must be consistently defined. Data administration for geographic information systems (GIS) must be in concert with the administration of all other data. Standards for data exchanges, such as the emerging Extensible Markup Language (XML) also will be adopted.
- Many of the agencies' field offices are underserved in their ability to implement enterprise applications. Several agencies have point-to-point solutions for remote networking, particularly in the areas of health and human services and public safety. To gain efficiencies, we will encourage the Indiana Telecommunications Network (ITN) to develop and implement regionally based wide-area network (WAN) connections.
- The State should analyze and implement end-to-end network monitoring tools to support agencies' ability to monitor applications and network traffic across the wide-area-network.
- It was apparent that agencies are better at hardware integration support and implementation than software and application support and integration. This is particularly evident when viewing business functions across multiple departments and agencies. There is duplication and a lack of viewing these business functions in a cooperative manner. Agencies tend to meet their own needs quite well, but statewide strategy is either non-existent or seen as a reflection of their own needs. Coordinated development focused on business and functional clusters is paramount to the successful implementation of e-commerce and e-government solutions.

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- We noted that there is a growing digital divide amongst the agencies where larger agencies with multiple funding sources have more technology capabilities and the smaller, lesser-funded agencies have less. This results in lessened ability to provide support and can result in increased costs for maintenance. This also correlates to the skills and quality of the technical support staff to maintain these systems. Consequently, there is a need to create a bridge between the “haves and the have nots” by leveraging the skills and resources across the enterprise.
- There is recognition that agencies are duplicating infrastructure management activities that in all probability would be better provided centrally. These activities are analogous to having an agency that operates and maintains hospitals building and maintaining the roads to get there. Opportunities should be explored that result in agencies focusing on their core business and application delivery systems and sourcing their technology infrastructure maintenance to another organization.
- Finally, the distributed technology management structure within State government does not result in coordinated decision making that is in the best interest of the State of Indiana as an enterprise. Multiple technology solutions intended to meet the same needs are frequently deployed resulting in increased support costs and an inability to leverage investments. This lack of coordinated decision making significantly hampers the delivery of e-commerce and e-government solutions by delaying implementations and increasing investments. It is necessary to establish an information technology governance structure that includes members from state agency business and technical areas. These groups must coordinate information technology solutions across business functions

Six enterprise initiatives were identified that will significantly impact state agencies in the upcoming biennium.

1. **GIS** will develop planning, policies, standards and infrastructure for geographic data through the state GIS coordinator.
2. The **Health Insurance Portability and Accountability Act (HIPAA)** is another enterprise initiative. This will affect any agency that uses health and patient related data by requiring compliance to electronic data interchange (EDI) transactions, code sets and identifiers as well as privacy and security regulations. This is important because these requirements affect all health care organizations in the state, and the penalties for non-compliance are severe. This enterprise business initiative alone drives the need for the establishment of an enterprise level security solution.
3. **Hoosier Safe-T** will impact state and local law enforcement organizations by developing an integrated communications system. This initiative will not only

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save money in the long run, but it also will also enhance public safety by allowing all law enforcement and public safety agencies operating within the state to communicate with each other.

4. The **Government Management Information System (GMIS)**. This already replaced the human resources application in State Personnel and the procurement system in the Department of Administration. It also provides the standard financial management application for state agencies.
5. The **Access Indiana WebSite Common Look and Feel** initiative will evolve the State's Access Indiana web portal from an agency presentation view of information to a service view, resulting in streamlined access to government information and services for citizens and businesses needing information and transacting business with the State.
6. The **IT Governance Structure** initiative will result in better information technology solutions.

In order to effectively manage and distribute technology solutions to meet current and emerging technology needs, a team, comprised of representatives of business and technical leaders should be convened. This team will prioritize and guide technology decisions that are aligned with agency business goals and objectives.

This IT planning document sets the stage for the progress of IT within state government. Setting policies and standards, facilitating procurements, and administering resources at an enterprise level, will provide agencies with an effective means to accomplish their business objectives. At the same time, the overall use of resources will be more efficient, and the opportunity for sharing among state agencies will be enhanced.

DATA PROCESSING OVERSIGHT COMMISSION GUIDING PRINCIPLES

- To create and support a more citizen focused government through the establishment and management of a reliable technology architecture and infrastructure
- To further deploy the efficient and effective use of technology
- To develop policies and standards that will make the best use of state resources.
- To ensure privacy of citizen information through the establishment of appropriate security measures
- To promote the secured access of information within state government and with other governmental entities
- To provide comprehensive access to state government by:
 - guaranteeing network integrity;
 - establishing converged networks; and,

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- implementing systems using open standards and technologies
- To use developed technology standards and policies as enablers, not barriers.

The implementation of this vision will ensure that citizens and businesses find streamlined access to the State of Indiana's diverse integrated network of services.

BACKGROUND

The DPOC systems consultants spent two months interviewing 38 agencies to gather information on 15 key strategic components. A cover letter, with information contained in the rest of this section, was sent to the agencies and used for the interviews.

DPOC solicited responses from the participating agencies based on their view of the agency's business in three years and the technology required to enable their agency's business functions.

Prior to the planning initiative, DPOC studied a number of information technologies that had enterprise implications. This project's objective was to obtain a high-level, accurate overview of agency information technology strategic directions. This invaluable information is necessary to guide enterprise infrastructure initiatives and applications development projects that cross multiple state agencies. There were a number of state policies and industry guidelines, as well as a template provided, to assist the agencies in conveying this information.

For example, industry guidelines for PC replacement and associated software and operating systems suggest that all PCs should be replaced on a planned schedule. In order to maintain pace with technology advancements, at a minimum PCs should be replaced every 3 years and monitors every 5 years. However, these timeframes can be more frequent if technology implementations require higher performance devices. Regardless of the plan, we requested that PC life cycle strategies be an explicit part of state agency's technology plans and should specify retirement and refresh rates according to their user-base segmentation, platform (mobile or desktop) and application requirements.

In addition, DPOC standard guidelines suggest that associated commercial off the shelf applications software and operating systems be within 2 releases of the generally available release. This will consolidate support requirements and ensure that applications can operate together and share information. Furthermore, considering the rapid pace that viruses are appearing, virus software should be implemented in a manner that provides for script updates at least weekly. Notwithstanding the other initiatives, information technology security administration should be a priority activity for all agencies.

There is recognition that agencies are working diligently on their respective infrastructure and connectivity projects. In order to determine if economies of scale can be realized through partnering, and to ensure that the right resources are delivered in a timely

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manner, we asked agencies to provide their organization's infrastructure and connectivity plans for the next biennium.

The State has established enterprise applications to support budget, human resources (HR) and other financial management business processes. In addition, time and attendance and performance management planning and business functions are statewide initiatives and agencies were asked to provide their agency's current and future direction in these areas.

Given these broad state and industry directions and guidelines, we requested agencies to provide their strategy, plan, budget and implementation timeframes on the following initiatives for the next biennium:

1. Desktop refresh
2. Operating and application system upgrade
3. Virus protection
4. Security administration
5. Long-term connectivity to the enterprise applications for budget preparation, human resources, procurement and other financial management functions, such as inventory and asset management
6. Current and future time and attendance process and any ties to performance management planning and tracking
7. Electronic Mail and Internet Access for all employees as well as any migration plans
8. LAN implementations and upgrades
9. WAN connections
10. Remote access requirements (e.g., e-mail, LAN, application specific needs)
11. New or upgraded server or database platform implementations
12. Data Warehousing
13. E-commerce/e-government
14. Knowledge Management/Data Administration
15. Document Storage and Retrieval

PROJECT STATISTICS

While it was desirable to have every organization participate in this initiative, it was not feasible to accomplish this from a time and resources perspective. Consequently, DPOC set an objective to have participation of at least 50% of the state organizations, with a representative sample from small, medium and large agencies. That goal was accomplished.

1. 70 organizations were contacted to participate
2. 38 organizations chose to participate

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This sample represents well over half of the state agencies and organizations including all of the agencies that are considered large

RESPONSES BY STRATEGIC COMPONENT

Not every state organization has developed a strategic plan for each of the strategic components. This table illustrates the number of responses for a given strategic component. The details of the responses are found later in this document.

Number of Respondents	%	Strategic Component
30	79	Desktop Refresh
27	71	Operating and Applications Upgrades
34	89	Virus Protection
19	50	Security
26	68	Long Term Connectivity – BUDSTARS and GMIS
10	26	Time and Attendance
31	81	E-Mail and Internet for all Employees
25	66	LAN Implementations and Upgrades
20	53	WAN
18	47	Remote Access
22	58	New Server and DB Upgrades
12	32	Data Warehouse
26	68	E-Commerce/E-Government
12	32	Knowledge Management and Data Administration
17	45	Document Storage and Retrieval

IMPLEMENTATION OVERSIGHT

The findings and recommendations listed in this document will need to be appropriately assigned to groups for implementation. DPOC believes this is best achieved through business and technical groups who will review and prioritize technology implementations as well as develop and maintain the technology architecture.

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AGENCY TRENDS

This section is intended to provide an overview of common trends that were reported by the agencies during the interviews, as well as to provide recommendations based on those trends.

DESKTOP REFRESH

Industry guidelines for PC replacement and associated software and operating systems suggest that all PCs should be replaced on a planned schedule. In order to maintain pace with technology advancements, at minimum, PCs should be replaced every three years and monitors every five years. However, these timeframes can be more frequent if technology implementations require higher performance devices. Regardless of the plan, we requested that PC life cycle strategies be an explicit part of state agencies' technology plans and should specify retirement and refresh rates according to their user-base segmentation, platform (mobile or desktop) and application requirements.

Findings

1. Most agencies that responded on this strategic component have a refresh strategy that best meets their business objectives. However, it is not consistent across the state. Given the distributed management approach to support, consistency across the state is not necessary.
2. Many agencies are migrating from Windows 95 to Windows NT or Windows 2000.
3. MACS in the State Library and DNR are being replaced by Windows based PCs.
4. PC leasing is being investigated.

Recommendations

1. Investigate PC leasing and recommend an enterprise policy.
2. DPOC will maintain enterprise and multi-agency QPAs
3. DPOC will issue desktop refresh guidelines and keep these current based on industry trends.

OPERATING SYSTEM AND APPLICATIONS UPGRADES

DPOC standard guidelines suggest that operating systems and productivity suite applications be within two releases of the generally available release.

Findings

1. Migration to Windows 2000 and Windows NT by 15 of the responding agencies with slightly more than half migrating to Windows 2000 rather than NT.
2. Novell upgrades are planned by agencies where this is a standard.
3. Most agencies that responded on this strategic component have refresh currency strategy that best meets their business objectives. However, it is not consistent across the state. As with the desktop refresh, since the state operates on a distributed management organizational structure, there are no economies of scale

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that can be realized through consistency and the delivery and support of applications from a central source. However, other organizations have found economies of scale by centralizing these kinds of services and the state would be well-served in investigating and leveraging these opportunities where possible and appropriate.

4. Zenworks, a popular software distribution product, is being deployed in a few agencies to distribute applications and programs to the desktop.

Recommendations

1. Evaluate Windows NT and Windows 2000 deployment for desktop and network operating systems.
2. DPOC will publish and reinforce desktop and operating system standards to enable agencies to stay within two releases of the current release.
3. Perform an analysis on best of breed tools for the environment and establish QPAs to facilitate purchasing. Evaluate SMS, Zenworks and other tools to ensure that we deploy the suites that operate best within the enterprise and are interoperable with the appropriate network operating systems and hardware.

VIRUS PROTECTION

One of the biggest threats to computer usage is a virus. Viruses are malicious programs designed entirely for destruction and havoc. People who either know a lot about programming or know a lot about computers create viruses. Viruses are introduced to the environment via the Internet and through employees exchanging diskettes.

Once the virus is made it will generally be distributed through shareware, pirated software, e-mail or other various ways of transporting data. When the virus infects someone's computer it will either start infecting other data, destroying data, overwriting data, or corrupting software.

Virus protection is the implementation of software, policies and procedures in an organization so that risks are mitigated and costs associated with productivity loss are minimized.

Findings

1. Most agencies that responded on this strategic component have a virus protection strategy that best meets their business objectives. However, it is not consistent across the state. This is one area where consistency is necessary. This can remain a distributed management function, however, the frequency of the updates along with the frequency of running the software on the applications need to be consistent.
2. Most agencies are on or are migrating to McAfee.
3. Field office staff is most at risk since there is no mechanism to update laptops easily.

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Recommendations

1. Publish comprehensive guidelines on frequency of updates.
2. Further investigate ways to easily update field office staff devices.
3. Determine organizational relationship of virus protection administration to security administration.
4. Continue to reinforce the virus protection policy and encourage agencies to develop comprehensive virus protection training programs.

SECURITY ADMINISTRATION

Security safeguards information on a system from corruption or prying eyes. Security can mean anything from a password protected screen saver to encrypted data that requires the proper decoding software. Security administration is the software, policies, processes and procedures used to protect state information technology resources.

Findings

1. Most agencies that responded on this strategic component have a limited security strategy. Less than half of the responding agencies had adequate security policies.
2. Many organizations rely on DOIT for direction and policy.
3. Most organizations have implemented network password changes from 30-90 day cycles.
4. Little data was provided on physical security strategies.
5. HIPAA will impact affected agencies with regards to security administration.
6. DOIT plans on enhancing security past the mainframe.

Recommendations

1. Develop and publish an enterprise security policy.
2. Establish a central organization to become the enterprise security administrators for the State for policy oversight.
3. Establish a central organization to be responsible for all firewall administration.

LONG TERM CONNECTIVITY – BUDSTARS AND GMIS

BUDSTARS and GMIS are two enterprise established financial and human resources management systems. BUDSTARS is the budgeting application and GMIS is the financial and human resources management application using PeopleSoft.

Findings

1. Most agencies that responded on this strategic component have a desire or plan to migrate to and use PeopleSoft HR and Financials.

Recommendations

1. Publish the PeopleSoft implementation plan.
2. Establish a funding model for this enterprise initiative.
3. Analyze and implement BUDSTARS and GMIS integration.

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TIME AND ATTENDANCE

Time and attendance record keeping is done differently in each of the agencies. Some have automated the process, but most are collecting data and then sending paper files to the Auditor's Office where the information is keyed into the payroll system. In addition, there are no identified systems that tie performance management into time keeping in the state. While this appears to be a technology issue, it is more appropriately a business issue that requires an agency to take the lead.

Findings

1. Most of the agencies that responded to this strategic component, and who do not already have a Time and Attendance package, are interested in the PeopleSoft module.
2. More than one organization is interested in pursuing an effort to better understand performance based management and is considering initiating a study in the next biennium.

Recommendations

1. Define agencies that are interested in implementing time and attendance record keeping.
2. Perform a gap analysis against PeopleSoft time and attendance for those agencies.
3. Identify which agency is best positioned to become the executive sponsor and lead this initiative.

E-MAIL AND INTERNET ACCESS FOR ALL EMPLOYEES

As more applications are being re-engineered as browser based and web-enabled and as organizations move towards eliminating paper, the need for employees to have e-mail and Internet capabilities increases.

Findings

1. Most agencies that responded on this strategic component have an e-mail and Internet strategy that meets their business objectives.
2. Internet Explorer is the primary browser used by the agencies that responded.
3. GroupWise and Outlook are the two e-mail systems used by the responding agencies. Some agencies are migrating from GroupWise to Outlook, but none are migrating from Outlook to GroupWise.
4. Upgrades to new releases of GroupWise and Outlook are planned.
5. Remote access to e-mail was requested through VPN and POP mail.
6. Some agencies want software to limit accesses on the Internet to business specific sites to curtail unnecessary "surfing" by staff.
7. DOIT has purchased and is implementing intrusion detection software.

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Recommendations

1. Analyze e-mail dial-up solutions and determine the correct deployment.
2. Analyze software to be used by agencies to limit Internet surfing on inappropriate sites. Develop a vehicle to procure the most appropriate software.
3. Evaluate DOIT's intrusion detection software's ability to support agency specific requirements for Internet blocking and determine the additional implementation costs to provide this service to agencies.

LAN IMPLEMENTATIONS AND UPGRADES

Although LAN management is the responsibility of each agency, the agencies are dependent upon other organizations to ensure that upgrades occur. In addition, many new applications, such as GMIS as well as GIS based applications, require a more robust technology infrastructure. The purpose of this strategic component question was to understand the agencies' intention regarding upgrades to the legacy infrastructure.

Findings

1. Most agencies that responded on this strategic component have LAN implementations and upgrades that meet their business objectives.
2. There is still a significant amount of Category 3 cabling in the enterprise.
3. Many agencies are migrating from a 10 MB to a 100 MB network.

Recommendations

1. Migrate all Category 3 installations to Category 5.
2. Market the server strategy policy and strategies at DPOC. DPOC then will delegate purchasing authority for servers.

WAN CONNECTIONS

The wide area network (WAN) management was recently turned over to the Intelenet Commission and the operations to the Indiana Higher Education Telecommunications System (IHETS). This strategic component question was designed to understand the current WAN services and the needs that are required by the agencies.

Findings

1. Most agencies that responded on this strategic component have WAN strategies that meet their business objectives.
2. Field offices are underserved with regards to network connectivity and the ability to push enterprise applications to those offices is hampered.
3. Video conferencing capabilities were expressed as a requirement by many organizations.
4. Voice over IP convergence is a desired requirement by some agencies.

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5. Some agencies are requesting “end to end” monitoring capabilities so they can troubleshoot problems across their LAN and WAN links.
6. There are many agency specific point-to-point solutions for health and human services as well as public safety centers throughout the state.

Recommendations

1. Market the DOIT video conferencing service.
2. Analyze and recommend the voice over IP direction for the state.
3. Analyze and implement end-to-end network monitoring tools.
4. Develop and implement regionally based WAN connections to increase efficiencies.

REMOTE ACCESS REQUIREMENTS

Remote access is the connection of a remote computer or other remote device to central location. This is typically a mode of access by an agency that has one or more locations or access to a central computer system by an employee from home or by field staff. Mobile access is defined as anyone needing access remotely from many locations to one location, as with someone who travels. Typically there is not one standard delivery method for remote and mobile accesses.

Currently DOIT provides a virtual private network (VPN) secure remote access service for the State of Indiana.

Findings

1. Most agencies that responded to this strategic component have remote access requirements that are not currently being met.
2. Most agencies are interested in VPN.
3. VPN might not meet all the agencies’ needs. Dedicated remote access servers (RAS) servers might be necessary for some situations.
4. Web e-mail is a desired function.

Recommendations

1. Ensure the successful implementation of VPN.
2. Pursue remote e-mail access options to GroupWise and Exchange.
3. Develop multiple remote and mobile access methods and deploy them appropriately.

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NEW OR UPGRADED SERVER OR DB PLATFORM

This strategic component was included in order to ensure that agencies have server and database management strategies in place. Similar to the desktop refresh strategies, agencies need to ensure that their servers are refreshed.

Findings

1. Most agencies that responded to this strategic component have strategies that meet their business objectives.
2. Most agencies have a server refresh strategy that is either on a 3 or 5 year cycle.
3. Most agencies use enterprise database standards or are migrating to one of the standards in the next biennium.
4. Some agencies are web-enabling their mission critical applications to provide for a consistent user interface and facilitate support.

Recommendations

1. Promote the policy that delegates purchasing to agencies who submit a written server strategy for their organization.
2. Encourage agencies to adequately analyze which database platform best suits their respective business requirements; e.g., Oracle, MS-SQL Server, MS-Access.
3. Define and publish the elements that should be contained in a server strategy. This document will accompany the existing server strategy policy.

DATA WAREHOUSING

A data warehouse is defined as a reporting and analysis environment that can include the use of business intelligence tools, web based reporting tools and ad-hoc query tools. In addition, data warehousing employs data management tools and methodologies to administer data coming from multiple sources. Finally, data warehouses are not defined as online transaction processing systems (OLTP) but are typically used for analysis only and keep data in various historical states.

Findings

1. Most of the organizations that responded to this strategic component had differing definitions and understanding of data warehousing.
2. The main data warehouse initiatives came from the Health and Human Services cluster. This is the business cluster where a data warehouse study was initiated two years ago.

Recommendations

1. Establish a data warehouse team to:
 - a. Identify and catalog opportunities
 - b. Promote data warehouse methodologies, education and awareness seminars
 - c. Inventory and recommend tools
 - d. Recommend policies, standards and procedures
2. DPOC will develop and publish a common data warehouse definition

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E-COMMERCE/E-GOVERNMENT

Delivering services to citizens, doing business with companies and exchanging information within and among governmental units, are increasingly being facilitated via the Internet. This section captures the e-initiatives being proposed by agencies. There is a dedicated resource that is developing a comprehensive e-commerce and e-government strategic direction for the State of Indiana. In addition, the State's internal resources and strategic partners will play key roles in supporting any and all e-government services. Indiana Interactive, the manager of the State's Access Indiana Internet portal, is an example of one of the State's strategic partners.

Findings

1. Nineteen different organizations presented 27 different e-commerce and e-government initiatives.
2. Licensing and permitting applications were presented from more than one organization.
3. Financial and procurement systems were presented by more than one organization.

Recommendations

1. Consolidate permit and licensing web application development into a citizen or business focused model.
2. Analyze and establish digital signatures for the State.
3. Raise awareness of enhanced access business opportunities with state agencies.
4. Develop and publish definitions for digital signature, electronic signature, digital certificate and electronic certificate.

Note: See Appendix II for electronic and digital signature definitions

KNOWLEDGE MANAGEMENT/DATA ADMINISTRATION

Knowledge Management:

There are many definitions associated with knowledge management. When the interviews were held, a common definition for knowledge management was not conveyed to the agencies. Furthermore, the interviewers had differing understandings and definitions of knowledge management themselves. Consequently, the responses to the knowledge management component were inconsistent and further strategic development is necessary for this component.

For the reader, the following definition of knowledge management is being provided. It is a recommendation that DPOC develop and publish a standard definition of knowledge management as a guide for agencies that might be similar to the following definition. Knowledge management is the systematic process of finding, selecting, organizing, distilling and presenting information in a way that improves an employee's comprehension in a specific area of interest. Knowledge management helps an

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organization to gain insight and understanding from its own experience. Specific knowledge management activities help focus the organization on acquiring, storing and utilizing knowledge for such things as problem solving, dynamic learning, strategic planning and decision making. It also protects intellectual assets from decay, adds to enterprise intelligence and provides increased flexibility. Knowledge management is deployed to provide an organization a competitive edge.

Findings

1. Most of the organizations that responded to this strategic component had differing definitions and understanding of knowledge management.

Recommendation

1. Develop and publish a knowledge management definition for the State of Indiana.

Data Administration:

Data Administration is defined as the development and management of policies, processes, procedures, tools and methodologies that an agency employs to be effective stewards of the data that they collect and manage. GIS coordination has a large data administration component. Consequently, it makes sense for many of the data administration standards and guidelines to be driven from the GIS coordination efforts. Effective data administration is key to the success of delivering e-government solutions.

Findings

1. Data standards are requested by a number of the agencies that responded.
2. Most agencies recognize the need for data administration policies and procedures to be developed in their organizations during the next biennium.

Recommendations

1. Establish enterprise-wide data administration policy oversight. Decide whether or not to consolidate with GIS data administration.
2. Establish and adopt data administration guidelines for the state. Consider adopting federal GIS standards as a first step.
3. Review and recommend enterprise-wide data administration oversight including procedures to geographically enable data.
4. Establish and adopt data administration guidelines for the State including procedures to facilitate data sharing between agencies.
5. Review and recommend strategies to develop and maintain GIS data that meet business needs and are both compliant with federal standards and consistent with the Indiana GIS initiative recommendations.
6. Develop and publish data administration definitions.
7. Identify and adopt "XML" standards for data exchanges.

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DOCUMENT STORAGE AND RETRIEVAL

Only a small part of any organization's information is contained in databases. Most is in the form of documents, such as invoices, legal records, and correspondence that need to be stored and retrieved in a database format. Document management, storage and retrieval are defined as developing methods and techniques for the management of digital documents in the networked multimedia environments of the enterprise. Special focus is placed on standards to ensure interoperability between and among various vendors.

Findings

1. Most of the organizations that responded to this strategic component are interested in scanning and imaging technologies.
2. Most of the organizations are waiting for the DOIT solution.
3. Some agencies are interested in CD storage technologies.
4. Most agencies focused on one particular area of document management, such as imaging, or scanning, and provided little input on comprehensive document management, storage and retrieval strategies.

Recommendations

1. Implement the DOIT imaging project along as quickly as possible.
2. Convene a team of people from multiple interested agencies to determine CD technology needs and determine if there are economies of scale that can be realized by partnering for a central or shared solution.
3. Coordinate with IDOA's space planning and document flow study.
4. Publish definitions and guidelines for document management, storage and retrieval systems, paying particular attention to the Document Management Alliance (DMA) standards for interoperability that are being developed through the Association for Information and Image Management (AIIM) organization.
5. Continue to focus on Extensible Markup Language (XML) standards for data exchanges.

ENTERPRISE INITIATIVES

These projects span multiple departments and agencies, are statewide, or reach beyond state government. All of these enterprise initiatives will require significant business and technical resources in the next biennium. Despite the investments, these initiatives are important and will provide improved service to the citizens of Indiana.

GIS

Indiana state government agencies have had geographic information systems (GIS) and related technology since 1989. Leaders from several agencies using GIS at the time, including DNR and Health, signed a memorandum of understanding in 1993 to improve "coordination, research and development, access to, and technical assistance of, geographically related environmental, health, and natural resource information within state government." In 1999 the state Data Processing Oversight Commission (DPOC)

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and the Governor's High Performance Government initiative began working with the various State agencies to revitalize coordination efforts through formation of the Indiana state government GIS Task Force. Task Force efforts led to the establishment of the state GIS Coordinator position in DPOC.

The state GIS Coordinator and the state GIS Task Force are developing strategic planning, and standards and policy formulation processes. Short term pilot projects which are underway to test infrastructure include the:

- establishment of centralized data storage capacity; testing of network suitability for distribution of uncompressed image data;
- implementation of enterprise-wide metadata authoring software and possibly image compression software; and
- deployment of thin client customized GIS applications.

Thin client development and evaluation of various data management schemas include consideration of using Access Indiana and Intelenet to deploy GIS services to customers outside state government.

The GIS Coordinator and the Task Force are working closely with the Indiana GIS initiative. This initiative serves to coordinate GIS activity outside state government and is a sister organization to the state GIS Task Force. Standards and policy development efforts are proceeding in concert between the two groups to assure compliance with both federal requirements and Indiana's needs, and to assure consistency at all levels of GIS implementation. Initiative members represent local government, universities and private industry, comprising a large part of the anticipated external customer base for state provided GIS services.

HIPAA

The Health Insurance Portability and Accountability Act of 1996 (Public Law 104-191), also known as HIPAA, is federal legislation that will primarily affect FSSA and ISDH. Significant enterprise resources will be expended in understanding and establishing HIPAA compliance over the next biennium. Data sharing, privacy and security initiatives, laws and regulations are affected. Any organization that deals with patient related electronic data will be impacted by HIPAA.

HIPAA was enacted as part of a broad Congressional attempt at incremental healthcare reform. The first piece of the law relating to portability has been in place since 1997 and says that no individual with a pre-existing health condition can be denied group health insurance. The second piece that significantly affects the healthcare industry is "administrative simplification" which requires the United States Department of Health and Human Services (DHHS) to develop standards and requirements for maintenance and transmission of health information that identifies individual patients.

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These standards are designed to:

1. Improve the efficiency and effectiveness of the healthcare system by standardizing the interchange of electronic data for specified administrative and financial transactions; and
2. Protect the security and confidentiality of electronic health information.

Impact on Indiana's Health Care Industry

The requirements outlined by the law and the regulations promulgated by DHHS are far-reaching--all healthcare organizations that maintain or transmit electronic health information must comply. This includes health plans, healthcare clearinghouses, and healthcare providers, from large integrated delivery networks to individual physician offices. Any state agency that deals with patient health data of any kind will be impacted by HIPAA remediation. This primarily includes the Family and Social Services Administration and the Indiana State Department of Health. Other organizations that may be impacted are the Department of Insurance, Department of Education, Worker's Compensation, Department of Correction and State Personnel.

Fiscal Implications

It is difficult to assess the costs and benefits of HIPAA because these are sweeping changes for which we have no historical experience. However, industry experts are saying that the financial impact to health organizations will be significant. The fiscal impacts are yet to be known particularly since not all of the administrative rules have been published.

Penalties

After the final standards are adopted, small health plans have 36 months to comply. Others, including healthcare providers, must comply within 24 months. The State of Indiana agencies have 24 months to comply.

The law provides for significant financial penalties for violations:

Penalties may not be more than \$100 per person per violation of a provision, and not more than \$25,000 per person per violation of an identical requirement or prohibition for a calendar year. However, there are several transactions and each transaction violation is multiplied by the values, making penalties very steep.

In addition penalties are assessed for any person that knowingly misuses a unique health identifier, or obtains or discloses individually identifiable health information in violation of this part. The penalties include: (1) A fine of not more than \$50,000 and/or imprisonment of not more than 1 year; (2) if the offense is

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“under false pretenses,” a fine of not more than \$100,000 and/or imprisonment of not more than 5 years; and (3) if the offense is with intent to sell, transfer, or use individually identifiable health information for commercial advantage, personal gain, or malicious harm, a fine of not more than \$250,000 and/or imprisonment of not more than 10 years. Note that these penalties do not affect any other penalties that may be imposed by other federal programs.

Temporal Scope

October 16, 2000 – June 15, 2003

The first part of the administrative simplification relating to electronic data interchange (EDI) was enacted on August 17. We have until October 16, 2002 to comply. Privacy rules were published on December 28, 2000 and finalized in April of 2001. Security administrative rules are expected to be released in the 2001, giving another two years to comply with those rules.

HOOSIER SAFE-T

This project is a large public safety initiative that will impact state and local law enforcement organizations. Significant funding and resources will be allocated to this initiative over the next biennium.

This statewide initiative is intended to bring state and local public safety voice and data communications systems into the 21st century. Many existing public safety communications systems are obsolete, they lack the ability to communicate on more than one or two channels, and some are nearing 30 years of continuous service. It is not uncommon for these communications systems to be incompatible or lack interoperability. Indiana is not unique in this regard. Many were implemented by geographical and political boundaries. Frequently within the same county, local, state and county police operate on standalone systems, thus requiring public safety personnel to manage multiple communications services within the area they serve.

Through the auspices of the Integrated Law Enforcement Council (ILEC), created by Governor O'Bannon in March of 1998, the Integrated Public Safety Commission was established to address this serious problem by developing and implementing a statewide-integrated public safety communications system.

The vision of Governor O'Bannon and the ILEC was to provide a system that would “enhance safety and save money by developing an integrated communications system” which would enable effective radio communications between local, state and federal public safety agencies, improving interoperability between the public safety services and sharing existing resources. The objectives include the implementation of a statewide wireless voice and data network and allowing voluntary participation by local, state and federal agencies. This would be accomplished through establishment of a multi-agency

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governance structure, established by the Indiana General Assembly, to be known as the Integrated Public Safety Commission (IPSC). Their charter is to work with local, state and federal public safety agencies to enhance the safety of Hoosiers through implementation of a new integrated communications system. IPSC is comprised of a county commissioner, an emergency medical services provider, a fire chief, an Indiana campus law enforcement representative, a mayor, a police chief, a private sector representative, a member of the FBI, a sheriff, the Indiana State Police Superintendent and representatives appointed by the General Assembly. The near term results of the Commission efforts has been to acquire and begin to implement a fully integrated, interoperable statewide 800 MHz trunked digital voice and data communications system.

The project continues to move forward; much work has been accomplished during the past few years relative to design, acquisition and implementation. Infrastructure build out is in process with the recent installation of master zone controller equipment (a system or series of systems to route and manage communications traffic over the network) in the Indiana Government Center complex, and three remaining zone controllers are to be installed in the near future. System implementation is a significant component of the project. A total of 129 towers are planned. Each tower will be connected, via telephone or microwave connection to a zone controller, and each in turn will ultimately be connected to one another through a system called "Motorola-Omni-Link." This component of the system will permit users located in opposite areas of the state to communicate directly with each other. A number of these tower sites already exist, however due to the statewide coverage requirements, many still remain to be built.

To facilitate local and county participation in the project several consortiums have been formed, each consisting of multiple counties and local communities all working together to achieve this goal of interoperability among public safety agencies throughout the state. This project is considered the most important advance in public safety communication that the State of Indiana has ever undertaken. The far-reaching positive results include participation by local police and sheriff's departments, state government agencies, and federal law enforcement.

GMIS

Government Management Information Systems (GMIS) is the State of Indiana's enterprise resource planning (ERP) initiative. This project was begun at the request of the State Budget Agency approximately 5 years ago. This program includes a number of different projects. Among the best known was the installation of PeopleSoft software to provide a replacement system for State Personnel and to automate the Department of Administration's Procurement Division. Many State agencies are implementing PeopleSoft financials.

The stated direction of the Data Processing Oversight Commission is the use of PeopleSoft financial systems for all new or significant upgrades of financial systems within the agencies. This will eventually result in all agencies using the same financial

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system to provide information to the Auditor of State. To speed this implementation, there is a plan being developed for the implementation of PeopleSoft financials for all state agencies within the next four years.

DPOC included a question regarding time and attendance reporting for state agencies. While this could be viewed as a technology issue, DPOC believes it is more appropriately identified as a business process issue. The task of recording and tracking state employees time is onerous for the state agencies. The Auditor of State maintains payroll and State Personnel maintains classification and staffing tables, without sharing a common system. The Auditor of State and State Personnel both have responsibilities for human resources management. This requires agencies to duplicate efforts preparing the same information for the Auditor of State as for State Personnel. A single time and attendance system that would prepare payroll information while obtaining its staffing information from a common system could reduce the State's time and effort in processing payroll. The business process must be streamlined to provide the desired results.

ACCESS INDIANA HISTORY AND FUTURE DEVELOPMENTS

Background

The Access Indiana portal was established in 1996 through a joint venture between the State of Indiana and Indiana Interactive. The partnership's arrangement was based on Indiana Interactive developing static web pages for state agencies for free in exchange for the ability to charge an enhanced access fee for transaction based applications access. To date, this arrangement has worked quite well. No new tax revenues are used to support the Access Indiana website and the inherent technology infrastructure. The results are that virtually every state agency is represented with at least an informational web site. Many agencies have moved past this "brochureware" concept of web presence to a transaction based website where the general public can at least exchange electronic mail with the various agencies.

WebSite Common Look and Feel

Indiana Interactive, through direction from, and in partnership with, the State of Indiana, is leading an effort to migrate the current Access Indiana portal to a "common look and feel."

Not only will the "Common Look and Feel" initiative facilitate access for citizens, but the new initiative focuses on delivering services to citizens in a much more efficient manner. Currently, if citizens want information or need to obtain a service, such as a fishing permit, they need to know what agency provides that particular service. The new portal migration to the common look and feel will incorporate a search capability that is more citizen-friendly. For example, the citizen can simply type in permits and all of the agencies and the associated services will display making it easy for the citizen to obtain services. In addition, Indiana Interactive has developed a number of style templates from which agencies can choose for their web pages. These templates also will assist the

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citizens' access in that they will be presented with a common look and feel throughout the entire Access Indiana site.

DPOC fully supports the goals and objectives of the Common Look and Feel initiative.

LARGE DEPARTMENTAL INITIATIVES

The initiatives listed below are specific to the agencies. Significant agency resources will be allocated to these initiatives by the respective organizations during the next biennium.

DWD	Unemployment Insurance System Replacement
Health	HIPAA Vital Records Integration Social Security Administration Access to Birth Records Laboratory Information Management System Consumer Protection Automation State Forms Automation Budget Tracking Application Complete CSHCS and expand to regional locations Immunization Tracking – provide access to the community Breast and Cervical Cancer – HIPAA compliance Office of Legal Affairs and Health Care Regulatory Integration
FSSA	HIPAA Common Front End Welfare Reform Integrated Data Base (WRIDB) Expansion
ICJI	Rewrite Victim Compensation Payment Application
DOC	Complete Automated Fingerprint Identification System (AFIS) Offender Identification System Re-engineering
ISP	Rewrite of IDACS and QFP Applications NCIC 2000 Technology Upgrade Upgrade DNA Offender Application and Database Implement Traffic Ticket Imaging Application Crash Reporting System
Courts	AIMS - Data Standards Implementation Deploy PCs and Provide Connectivity to the Internet
INDOT	Bid Express Includes Public/Private Key Component
SPD	Implement Disaster Recovery
BMV	IS/21
IDOA	E-Procurement
SBOA	Paperless Audit
IDEM	Consolidation of Databases
Revenue	Motor Carrier Registration Systems Upgrade Fuel Tax System Re-Write

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Appendix 1:

STRATEGIC COMPONENT BY AGENCY

The following section lists the 15 strategic components along with a short description of what each agency is planning within that strategic component.

DESKTOP REFRESH

DNR	3-4 year refresh Application driven
IDEM	3 year refresh
DOR	3 year refresh Warranty expiration
State Library	1-4 year refresh Removal of all Macs – replace with Windows-based PCs
OUCG	3-4 year refresh
CPR	3-5 year refresh
HRIC	Only have 4 desktops – peer to peer networking
PSB	3 year refresh
PERF	4 year refresh
DOA	3 year refresh
DOIT	3 year refresh
DWD	No specific refresh plan Investigating PC leasing
FSSA	3 year refresh Standardized on IBM PCs
P&A	3 year refresh for laptops 4 year refresh for desktops
Health	2 year refresh for laptops 3 year refresh for desktops Investigating PC leasing
ICJI	All PCs 4 years old. Replace all in next biennium.
DOC	3 year refresh
ILEA	3 year refresh
INDOT	3 year refresh for laptops and desktops
SBA	3 year refresh
DOI	2 year refresh for laptops and desktops
HPB	3 year refresh
DOL	3 year refresh – but no funding to support
SPD	3 year refresh
Commerce	Just started 3 year refresh program
SBOA	Hardware will continue to be obtained from surplus that meets agency needs.
Tax Com	25% to 35% replacement of desktops and laptops annually. Currently have 50% desktops, 50% laptops. Have budget allocated to refresh.
PLA	3 year refresh
ISP	3 year refresh
Auditor	3 year refresh

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OPERATING SYSTEM AND APPLICATIONS

DNR	Strategy is to upgrade when applications drive this and to keep consistent across the division. Does not subscribe to keeping within 2 releases.
IDEM	Migrate to Novell 5 For Applications and GIS – Migrate to Unix per KPMG study
DOR	Upgrades are driven by their compatibility to their mission critical applications
State Library	Within 2 versions if applications and hardware support it
Oucc	Strategy is to limit number of OSs in the department As required by applications With new workstations
CPR	Stay on Win95 as long as possible Office 97, Freehand, Netware
Ethics	Win 95 or greater Office
HRIC	Win98/Office 2000
PSB	Migrating to NT Using Office 2000
PERF	Continue Windows NT for LAN/Desktop Integrate call center into database
DOA	95 for desktops, NT for servers, Office '97 Migrate to Win2000 and Office 2000
DOIT	Implementing Win2000 Stay within 2 releases on the mainframe
DWD	Upgrade to Netware 5 Windows NT or Win2000 decision to be made
FSSA	Migrating from Win 95 and 3270 to Windows NT and Office 97 Begin migration plans for Windows 2000 and Office 2000
Health	Windows 95/NT, OfficePro 97, Possibly migrate to Windows 2000
DOC	Mainframe upgrade
ILEA	Upgrade from 95 to 98 New PCs with Windows 2000 Deployment of Zenworks
INDOT	Windows NT to Windows 2000
SBA	Windows 2000 Server Migrate to Unix (Alpha)
DOI	Upgrade to Win2000 and Office2000
HPB	Upgrade to Win/Office 2000 when ILS is certified to work on this OS
DOL	Migrate to Windows NT
SPD	Migrate from Novell and GroupWise to NT and Exchange
Commerce	Office 2000 and NT 4.0 upgrades scheduled to begin 4 th quarter 2000
SBOA	Migration to MS Office products and upgrading notebook hardware to support this software. Budget requested.
LRC	Data is housed at AI, using browser front-end
Tax Com	Operating systems are updated with systems are replaced
PLA	Currently on Win 95. Upgrade as license 2000 is upgrade
Auditor	Work towards being on the current release or one release prior

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VIRUS PROTECTION

DNR	Norton desktop McAfee server/once a month update Inoculan – everyday with backups
IDEM	Full McAfee and scripting usage
DOR	Norton – servers/desktops w/weekly updates Expanding to include Exchange servers
State Library	Desktop not proxy (product not specified)
OUCC	McAfee for desktops and servers
CPR	McAfee
Ethics	McAfee
HRIC	McAfee
PSB	Network Associates Total Virus Defense
PERF	Norton
DOA	McAfee
DOIT	SMS to automate McAfee downloads after hours
DWD	CA-Cheyenne InoculateIT 16.04 – updated monthly Client signature 16.34 – updated weekly Migration to McAfee
FSSA	McAfee, weekly signature updates servers, desktops, and mail systems Engine updates as vendors provide them
P&A	Norton – Migration to McAfee
Health	Managewise Antivirus – NAL push to workstations Laptops updated with field staff come to office
SBA	Migrating to McAfee
ILEA	Norton and McAfee Future: Zenworks to push to desktops
INDOT	McAfee on desktops, servers and exchange servers Auto-upgrade weekly
DOI	Currently on CA InnoculateIT- updates every 2 weeks Migrate to McAfee
DOL	McAfee
Military Dept of Indiana	McAfee deployed. Planning to auto update push to the desktop
Commerce	McAfee for desktop – not server based
WRSP	Currently using McAfee. Developing plans for more regular updates.
SBOA	McAfee
LRC	None
Tax Com	McAfee full protection suite is being used. Update desktops routinely. Difficulty updating field systems.
PLA	DOIT handles network support and maintenance. However DOIT deploys, PLA follows
Auditor	Norton Antivirus. DOIT firewall

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SECURITY ADMINISTRATION

DNR	Windows password protection – desktop Novell password protection Servers housed in locked cabinets
IDEM	Passwords DOIT Firewall
DOR	Exchange server with restrictions Proxy server with webserve to restrict Internet use to business only Anti-virus Monitoring software to adhere to security policies VPN
State Library	Mainframe/DEC security Desktop where applicable – user PW – IP address filtering AS/5200 (DOIT) No firewall – (transition to Extranet)
OUCG	DOIT firewall – campus Novell for internal O/S for desktop
CPR	Under DOIT direction
HRIC	Using NTFS Password changed every 90 days
DOA	NT Security
DOIT	Expanding security beyond the mainframe
DWD	Network logins password – every 30 days Novell Client 2.5 authentication servers Desktop BIOS password
Health	Migrating from client server based to web-based security HIPAA security implementation
DOC	Develop and implement security systems Digital surveillance systems
INDOT	Direction is to develop more cohesive plan Develop new disaster recovery plan
SBA	Investigating single sign-on
DOI	Rely on DOIT for security NAIC connection – purchase Novell’s Border Manager firewall for NAIC link
Commerce	No security manager or coordinator assigned; however, follow ISO 9000 certification criteria to document processes then update plans and policies.
WRSP	Currently using passwords
SBOA	Protect data through encryption capability of TeamMate audit software. Continue annual audits of all agency security.
LRC	Rely on AI to provide security administration.
Tax Com	Lead IT person is responsible for security. Every functional area has an owner for application security. Passwords change every 32 days.
PLA	Relies entirely on DOIT for security support
Auditor	Traditional tools such as RACF, Application Security, Novell passwords. Continue to learn about DOIT’s firewall, encryption, VPN Technology, digital certs and signatures. Follow Board of Accounts and DOIT recommended policies whenever possible

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LONG TERM CONNECTIVITY – BUDSTARS AND GMIS

DNR	GMIS connectivity for field offices limited by network
IDEM	Use GMIS and BUDSTARS
State Library	Currently migrating to DOIT Extranet. This facilitates use of enterprise applications.
OUCG	Use GMIS and BUDSTARS
CPR	BUDSTARS, Procurement Plan move to HR and Financials
Ethics	Current dial in to BUDSTARS and Auditor's Office
PSB	PeopleSoft in 2001
DOIT	Citrix for BUDSTARS Replace AS/5200 w/VPN
Health	Peoplesoft Human Resources Implement PeopleSoft Human Resources/Payroll V.7.5.1 Citrix Implementation with DOIT
DOC	Implement GMIS human resources Expand to include Financials
ILEA	Peoplesoft Human Resources – 2002
SBA	Implement PeopleSoft financials and Human Resources module Participate in plans for workflow and online approvals
DOL	Budstars No Peoplesoft – cost prohibitive but will re-investigate
DOI	Uses Budstars Plans to connect to Peoplesoft
Commerce	Connected to backbone. Has BudStars. Wants PeopleSoft but cost prohibitive
WRSP	Needs better connectivity. Currently using dial-up.
LRC	Using dialup with Citrix
PLA	Connected to BudStars this year. Not currently on PeopleSoft, questioned whether they needed to use PeopleSoft.
Auditor	Use Budstars. Will help GMIS users interface with GEAC system as cleanly as possible.

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TIME AND ATTENDANCE

DNR	Maintenance Management System Evaluation which includes a time and attendance module
IDEM	Currently have a PowerBuilder/Oracle time and attendance system in production. No plans to upgrade or change
CPR	Wants new card access for archives that will track time and attendance
PSB	Would like to "get into" performance based management
PERF	Initiate a performance based study
DOI	Wants web-based time reporting of A-4s that uses digital signatures and can be integrated with time clock (looked at IDEM's)
Health	Web-enable automated time and activity application currently in production
SBA	Implement on-time reporting A-4 of PeopleSoft
DOIT	Wants PeopleSoft time tracking
SPD	Wants to investigate PeopleSoft modules
Commerce	Use local database to track and maintain records. Research PeopleSoft module.
SBOA	Time and attendance computerized in the "Paperless" Audit Project and protected through Digital Signatures
Auditor	DOS based time entry system on diskette that is deployed throughout the state. Strategy is to web-enable the front-end and using FTP on the back end. Looked at KRONOS and the in-house system used at the Department of Health.

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E-MAIL AND INTERNET ACCESS FOR ALL EMPLOYEES

DNR	MS Exchange for Central Office Internet mail for the field Want POP mail to reduce cost by \$5/per user
IDEM	Migrate to GroupWise 6 Wants GroupWise through the Internet (VPN or E-Mail Gateway)
DOR	Plan for two new Exchange Servers Browser/Internet for all internal staff External staff given Internet on a need to have basis only
CPR	GroupWise e-mail
Ethics	I-Quest
PSB	Integrate Outlook w/Peoplesoft and Project 2000 Outlook/Exchange
PERF	Outlook
DOA	Everyone that needs it – has it
DOIT	Offer dedicated bandwidth for a charge Consolidated E-Mail study Webserver capacity for Outlook Migrating to IP addressing
DWD	GroupWise 5.5.2 GroupWise Web Access available to staff with an ISP Plan to upgrade to 5.5.3 during next biennium
FSSA	Outlook 2000 and IE 5.0 to all FSSA computers
Health	GroupWise Investigate VPN vs. Asynchronous Communications Server Upgrade to new version of GroupWise
DOC	Continue with GroupWise deployment Limited Internet deployment
INDOT	MS Exchange – Upgrade to Exchange 2000 MS-IE Investigates software which limits Internet access to only authorized sites
SBA	MS Exchange 5.5 – Migrate to Exchange 2000
DOI	GroupWise Deliver the Internet to field personnel
DOL	Dial-up through Earthlink for field staff Two separate exchange servers- OSHA requires separate server DOL server MS-Exchange 5.5 OSHA MS Exchange 5.0
SPD	Currently on GroupWise Migrate to exchange, MS-Outlook and Internet Explorer
Commerce	All PCs have e-mail and internet through the backbone. Have an acceptable use policy in place
WRSP	E-mail using GroupWise
SBOA	Feature included in the “Paperless” Audit Project using MS products.
LRC	Using Internet e-mail
Tax Com	Outlook for Campus users. Indynet for field users. Have signed computer use policy for all employees
PLA	Use DOIT’s Computer Use Policy. All employees have access and use e-mail.
Auditor	Almost all employees have e-mail and Internet Access. Continue to use Netscape and GroupWise.

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LAN IMPLEMENTATIONS AND UPGRADES

DNR	Server replacement 5-7 years Replace current 10MB 2/100 MB switches
IDEM	Upgrade in process
DOR	Switch backbone to replace hubs Wire all server and special devices to 100 mbps Wire all desktops to 100 mbps
State Library	Category 5 cabling, Ethernet, ICP/IP 2001-Migrate to enhanced Category 5 per state wiring standards
OUCG	Upgrade current servers in next biennium
HRIC	Exchange server by the end of 2000 Implement small development web server
PSB	Move to server 2000 Move to 100 MB network from 10MB Move to 2 nd server to distribute work load Using Express 5800
PERF	Stabilize network connectivity
DWD	Establishing a LAN with Goodwill Continual refresh of servers, memory, peripherals as needed In current LAN/WAN redesign phase
FSSA	3- year server replacement strategy IBM Standard equipment Want LAN/WAN performance management of applications
Health	Upgrade all production servers to agency server standard Reassess server backup and data storage facilities and procedures
ICJI	As part of move, upgrade LAN to fiber
DOC	Complete upgrade of 9 institutions including wiring, switches, routers, hubs
ILEA	Upgrade from Novell 4.11 to 5.0 Routed to switched backbone Bay Networks to Cisco conversion Delivering 10MB to the desktop
INDOT	Upgrading from Category 3 cabling to Category 5 Increased network speed to support GIS and CAD to the desktop
SBA	NT, TCP/IP Upgrade to Windows 2000
DOIT	Upgrade to Novell 5.1 Migrate from GroupWise to Border Manager Upgrade wall jacks to handle 100 mbps
DOL	Currently have category 3 cabling Plans to upgrade NT1 and NT2 servers Obtain federal funding to upgrade OSHA server
SPD	Upgrade from Category 3 cabling to Category 5 cabling Upgrade to 100 mbps Add additional server capacity Draw cabling layout
Commerce	Use 100 Mbps internal LAN and to backbone. Fiber used for connectivity to backbone. Replacing Category 3 cabling on an as needed basis. Researching upgrading switches and hubs in next procurement.
SBOA	Included in the "Paperless" Audit Project

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Tax Com	Currently have 10/100 connectivity. TY00 completed upgrades. No plans for upcoming biennium.
PLA	Rent space on DOIT servers. Might need additional capacity. ILS server under DOIT support
Auditor	Remain on Novell. Pilot Windows NT (2000). Alchemy Report Server upgrade to Novell 5.1. Internal Office server already on Novel 5.1

WAN CONNECTIONS

DNR	Using dial up to field offices Would like full dedicated connections
IDEM	Migrating from Sprint to INSPAN
State Library	200 sites with T1 connections 18 sites will have VTEL Videoconferencing for education purposes-Pilot with IHETS
HRIC	Need connectivity to network and communities for youth investments
PERF	Videoconferencing
DOIT	Customer service by ITN CAN upgrade in progress Switched backbone by end of 2000 Videoconferencing service offering by end of 1Q-2001
DWD	Move to INSPAN within 18 months Replacing hubs with switches Replacing a router in Administration Office Upgrade from Category 3 cabling to Category 5 Want LAN/WAN monitoring of applications tools and capabilities
FSSA	Upgrade WAN links to full T1s Upgrade remaining LAN networks to fully switched Ethernet Migrate to INSPAN Add additional switch capacity to handle load Voice over IP convergence Videoconferencing capabilities Additional circuit to connect IHETS and Campus
Health	Pursue migration from copper T1 connection to the campus backbone to a high-speed fiber link
ICJI	Provide connectivity to remote office located at the Law Enforcement Academy
INDOT	Expansion of WAN to INDOT unit facilities Video networking to district facilities
Commerce	Researching upgrading switches and hubs in next procurement
LRC	Using dial-up

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REMOTE ACCESS REQUIREMENTS

DNR	VPN participant-If successful provides e-mail to employees by end of 2001. Tied to e-mail and internet to all employees strategy
IDEM	Extranet VPN E-mail Gateway Server
DOR	VPN Pilot participant
State Library	DOIT's AS/5200-Migrating to Extranet Investigating MS-SMS or HP Open view for support of staff and patrons
OUCG	Novell web access for GroupWise
HRIC	May consider remote access for convenience
PSB	Need remote e-mail access. May use VPN
DOA	May use VPN if pilot successful
DOIT	Replace AS/5200 w/VPN
DWD	Hopeful VPN meets all remote access requirements Plan to continue to web enable apps for remote access
FSSA	Wants RAS – Remote Access Server VPN Pilot participant – this will meet some needs Mobile and Wireless requirements
Health	Citrix for remote users (special institutions) VPN
INDOT	Implementing AT&T Global Net
SBA	VPN
DOI	VPN
DOL	VPN
SPD	VPN
Commerce	Participating in VPN. Will stay with VPN if pilot successful. Currently have dial-up connection to DoIT for access to Outlook.
Tax Com	Limited. 1 modem by Chairman and Director level. Works fine.
PLA	Not currently part of the VPN pilot. Interested in findings.
Auditor	Users access Alchemy Gold Report Server via DOIT's AS/5200. Requirement to send non-state agencies encrypted files via the Internet. Investigating VPN, and would like to better understand IHETS, DOIT and Access Indiana services.

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NEW/UPGRADED SERVER OR DB PLATFORM

DNR	Currently on Novell 4.11. Exploring migration to NT Large Filemaker Pro installation. No plans to change
IDEM	Per KPMG and internal strategy plan – GIS/UNIX platform
DOR	New production server this fiscal year New development server next fiscal year Upgrade to Oracle 8i Multi-segment, high speed data server implementation for all in-house databases and database applications DOIT mainframe for information that does not need to be retrieved with 24h
State Library	2002-DRA re-write of library automation systems (TAOS)
PSB	Replace Unify DBs
DOA	Migrate to WIN2000 and Exchange 2000
DOIT	Mainframe operating system upgrade 11/2000 Mainframe hardware upgrade 1Q2001
DWD	Migrate 8 FoxPro legacy applications to Oracle
Health	Web-enable applications with Oracle front-end application tools supplemented with compatible, internet capable tools Replace servers that are more than 3 years old Implement clustered systems
INDOT	Replace existing DEC hardware and Open VMS
SBA	Migrate to Windows 2000 Migrate to Unix for production and application support
DOIT	Procure 2 servers Upgrade to Oracle 8.1.6.2
Commerce	Currently have 5 servers less than one year old – Netfinity 5500. After documenting processes researching migrating to SQL Server for server database.
SBOA	Office Server will be implemented to house all MS Office products to compliment the existing UNIX environment
Tax Com	Server disk space could become an issue. Mail platform is in Revenue.
Auditor	Currently have two new Novell productions servers as well as a test server. Planning to upgrade Multiprise 2000 enterprise server in a year.

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DATA WAREHOUSING

DOR	Taxpayer information data warehouse Remove decision support and strategic compliance modules from RPS and create separate database
DOIT	Supporting ISDH and FSSA data warehouse initiatives
DWD	Establish data warehouse for CS3 and Unemployment Insurance
FSSA	Welfare Reform Integrated Data Base expansion Share with other entities as appropriate
Health	Oracle portal implementation to support data marting strategy. Web-based
SBA	Migrate data warehouse to Oracle
DOL	Currently no data warehouse Needs data warehouse with employee information to share with DWD, DOL, Worker's Comp, DOR and DOH
SBOA	Activity included in the agency ongoing project for the collection of local governmental data that will be completed in 2001.
Tax Com	LOGODABA is a data warehouse. Use pieces of Ad Hoc Query tool that is Andersen proprietary. Just getting by. May need tool(s).
Auditor	PI requests concerning vendor payments. Currently have CD-ROM application using Access and Visual Basic. 20 year vendor history. Want to build an Intranet accessed app for state agencies only that will contain financial information such as claims, purchase orders, payments, general ledger accounts, vendor information. Etc.

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E-COMMERCE/E-GOVERNMENT

DNR	Grant applications Reservation of campsites, lodge rooms Sale of gift shop items Permits
IDEM	Have "One Stop" grant for data, GIS and submitted initiatives
DOR	Provide portal into RPS allowing taxpayers to access their information
CPR	Provide requests for documents electronically
Ethics	Web enable financial disclosure statements Web-enable campaign finance reporting
PSB	Implement new application to license via Internet Use web authoring tool for context
PERF	Web-enable SIRIS for status and changes
DOA	Implement e-procurement with PeopleSoft
DOIT	Form Internet Development Team with Personnel, IDOA, Budget and Auditor's Office. Would be charged with identifying applications
DWD	Plan to continue migrating apps to web with 24x7x365 business strategy Participating in business portal initiative
ISDH	Establish an e-business planning group to review and plan health e-business strategy and implementation
INDOT	Permit applications 2-Way electronic construction contract buildings
SBA	Develop web applications to deliver budget data to state agencies, Indiana citizens and the world
DOI	License application online Medical Malpractice online Healthcare Provider Certification online
DOL	Schools submit permits for students online. Would like to pursue the Lotus Notes solution used in Ohio
SPD	Digital signatures
Commerce	After processes documented, research what can be moved to web-based applications
SBOA	Continued enhancement of web pages which include information on accounting manuals, rosters, etc.
LRC	Working with AI on Electronic Filing
PLA	Investigating e-licensing in the next fiscal year
Auditor	No plans for e-commerce, however, want to add more features to current website. Plan to web-enable internal applications for state agencies.

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KNOWLEDGE MANAGEMENT/DATA ADMINISTRATION

IDEM	Data administration policies and procedures
DOR	Create ability to exchange data with other state agencies FTP server implementation
PSB	Would like technical help system and Internet reports available to reduce support resources Better way to use Level 2 and 3 support other than credit card or billing Need statewide database in quality of training available for telecommunications support Need statewide strategy on sharing technical expertise
DOIT	Knowledge management for Help Desk Storage Access Network (SAN) for enterprise storage
DWD	Develop strategy of data administration across all DWD operational systems
FSSA	Develop solid data administration policies and procedures Participate in statewide initiatives of same
Health	Participate in enterprise Data Administration project Continue with Data Steward concept and integrate their work into HIPAA compliance Expand data availability via the ISDH Intranet to support ISDH staff Expand data availability through the ISDH web page and increase capability for public use
INDOT	Pending approval of organization that supports a Data Administration section that will: 1. Administer and support in-house databases 2. Develop and enforce database standards and guidelines
Tax Com	LOGODABA – moving to standards of Access and Visual Basic

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DOCUMENT STORAGE AND RETRIVAL

DNR	Store documents on CD
IDEM	Major comprehensive initiative
CPR	Scan documents once and output to microfilm and CDs
HRIC	May need imaging in the future
PSB	Want imaging
PERF	Imaging being integrated into SIRIS using FileNT conversion
DOA	Looking for the best candidate for document imaging. Need to consider records retention policies.
DOIT	Establish QPAs for Imaging by April 2001 1 hardware vendor; multiple service vendors
Health	CSHCS imaging of claims Evaluate with HIPAA Explore DOIT offerings Develop a plan for document storage and retrieval
ISP	Implement traffic ticket application – scanning and imaging solution
INDOT	Implementing Electronic Records Management System. Pilot in production. Planned rollout
DOI	Research imaging solution
SPD	Research imaging solution. Interested in DOIT initiative
Commerce	Interested in DoIT initiative and offerings.
SBOA	Included in the “Paperless” Audit Project to retain audit reports and work papers on CD ROMS
LRC	Have a requirement to archive every 4 years. No file storage. Need solution.
PLA	Does not have any knowledge, but is interested in looking at the new DOIT imaging services.
ISP	Traffic ticket database using scanning technology.
Auditor	Production paper reports moved to Alchemy Gold system. This is a report database product that runs on Novell sever as well as CD-ROM (for archiving history). Currently scanning and imaging paper Journal Vouchers and housing them on CD-ROM from retrieval. Are reviewing paper documents to decide what are viable candidates for Imaging. Determining whether to continue outsourcing or purchasing own equipment and doing in-house.

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Appendix II: Electronic and Digital Signature Definitions

An **“Electronic Signature”** is any signature that can be represented electronically. Such as a digitized handwritten signature to a digital signature based on public-key cryptography. As defined in Indiana Code 5-24-2-2 an “Electronic Signature” means an electronic identifier, created by a computer, executed or adopted by the party using it with intent to authenticate a writer.

A **“Digital Signature”** is a type of “electronic signature.” As defined in 5-24-2-1 a “Digital Signature” means an electronic signature that transforms a message using an asymmetric cryptosystem such that a person having the initial message and the signer’s public key can accurately determine:

1. the transformation was created using the private key that corresponds to the signer’s public key; and
2. the initial message has not been altered since the transformation was made.

Digital signature not only provides data authentication, but also helps maintain data integrity.

“Public Key” Cryptology is an asymmetric scheme that uses a key pair for encryption: a public key, which encrypts data, and a corresponding private key for decryption.

- A *“Public Key”* - key from the pair that can be publicized to anyone to use to verify and identify the digital signature.
- A *“Private Key”* – key from the pair that is held by an individual and known only to that individual for creating the digital signature.

A **“digital certificate” (or cert)** is a form of credential. The certificate simplifies the task of establishing whether a key pair truly belongs to the purported owner. Examples of a credential, or a physical certificate, might be your driver’s license, your social security card, or your birth certificate. These each have some information on it identifying you and some authorization stating that someone else has confirmed your identify. A digital certificate is data that functions much like a physical certificate. A digital certificate is information included with person’s public key that helps others verify that a key is genuine or valid. Digital certificates are used to thwart attempts to substitute one person’s key for another.

A **“digital certificate”** is a computer-based record that:

1. Identifies the certification authority;
2. Names or identifies a subscriber;
3. Contains the subscribers’ public key;
4. Identifies its operational period;
5. Is digitally signed by the certification authority using it; and,
6. At a minimum, conforms to International Telecommunications Union X.509 Version 3, standards

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Appendix III: Strategic vs. Tactical Breakdown of Activities

Strategic/Policy/Guideline
PC Leasing
Multi-Agency QPAs
Desktop Refresh Guidelines
Publish desktop operating systems standards within two releases
Publish virus protection frequency updates
Determine organizational relationship of virus protection administration to security administration
Develop and publish an enterprise security plan
Establish central organization to become enterprise security administration
Establish central firewall administration
Encourage GMIS Team to further determine and develop the funding model to support GMIS
Develop QPA to procure software to limit Internet surfing
Further define the server strategy, market the strategy and encourage agencies to submit their plans resulting in delegating purchasing authority to agencies
Encourage agencies to analyze which database platform best meets their needs.
Establish data warehouse team
Analyze and establish digital signatures for the state
Raise awareness of enhanced access business opportunities with state agencies
Publish definitions for digital signatures and digital certificates
Develop and publish knowledge management definitions
Review and recommend enterprise-wide data administration oversight
Establish and adopt data administration standards and guidelines
Recommend enterprise-wide data administration oversight.
Identify and adopt "XML" standards for data exchanges.
Establish a team to analyze data administration technology needs.

Tactical/Operational
Windows NT/Windows 2000 Deployment
SMS/Zenworks/Network Monitoring Tools Evaluation
Find ways to more easily update laptops/field offices with virus protection
Encourage GMIS team to develop and publish PeopleSoft implementation plan
Develop list of agencies interested in PeopleSoft's Time and Attendance
From results of above, implement PeopleSoft Time and Attendance or develop enterprise approach to Time and Attendance
Encourage State Personnel to assume leadership in Time and Attendance
Pursue e-mail dial-up options and determine correct deployment
Analyze software to be used by agencies to limit Internet surfing.
Determine if DOIT's intrusion detection software can be leveraged statewide and deployed to the desktop level
Develop plan to migrate remaining category 3 wiring to category 5
Encourage DOIT to actively market the video conferencing service
Study and implement Voice over IP service for the State
Analyze and implement end to end network monitoring tools through Intelenet and IHETS
Encourage Intelenet and IHETS to develop and implement regionally based WAN connections
Pursue successful implementation of VPN
Pursue remote e-mail options to GroupWise and Exchange
Develop remote and mobile access methods
Consolidate permit and licensing on the web
Accelerate DOIT's Imaging initiative

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Appendix IV: Agency Abbreviation Key:

DNR	Department of Natural Resources
IDEM	Indiana Department of Environmental Management
DOR	Department of Revenue
State Library	Indiana State Library
OUC	Office of Utility Consumer Counselor
CPR	Commission on Public Records
Ethics	Indiana State Ethics Commission
HRIC	Human Resources Investment Council
PSB	Professional Standards Board
PERF	Public Employees Retirement Fund
DOA	Department of Administration
DOIT	Department of Information Technology
DWD	Department of Workforce Development
FSSA	Family and Social Services Agency
P&A	Protection and Advocacy
Health	Indiana State Department of Health
ICJI	Indiana Criminal Justice Institute
DOC	Department of Correction
ILEA	Indiana Law Enforcement Academy
INDOT	Indiana Department of Transportation
SBA	State Budget Agency
DOI	Department of Insurance
HPB	Health Professions Bureau
DOL	Department of Labor
SPD	State Personnel Department
Commerce	Department of Commerce
SBOA	State Board of Accounts
LRC	Lobby Registration Commission
Tax Com	Indiana State Board of Tax Commissioners
WRSP	White River State Park
PLA	Professional Licensing Agency
ISP	Indiana State Police
Auditor	Auditor
Military Department of Indiana	

Appendix V: Technology Alignment Worksheet

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